

Title (en)
SINGLE-CHIP BRIDGE-TYPE MAGNETIC FIELD SENSOR

Title (de)
MAGNETFELDSSENSOR MIT EINZELCHIPBRÜCKE

Title (fr)
CAPTEUR DE CHAMP MAGNÉTIQUE DE TYPE À PONT MONOPUCE

Publication
EP 3006951 B1 20201223 (EN)

Application
EP 14803530 A 20140528

Priority

- CN 201310203311 A 20130528
- CN 2014078662 W 20140528

Abstract (en)
[origin: EP3006951A1] A single-chip magnetic field sensor bridge, comprising a substrate (1), a reference arm, a sensing arm, shielding structures (42), and wire bond pads (7, 8, 9, 10) is disclosed. The reference arm and the sense arm respectively comprise at least two rows/columns of reference element strings (44) and sense element strings (43) formed by electrically connecting one or more identical magnetoresistive sensing elements. The reference element strings (44) and the sense element strings (43) are alternately arranged. The magnetoresistive sensing elements are AMR, GMR or TMR sensing elements. The reference element strings (44) are provided with shielding structures (42) thereon, and the sensing element strings (43) are located in gaps (45) between two adjacent shielding structures (42). The shielding structures (42) are arrays of elongated strips composed of permalloy or another soft ferromagnetic material. The sensors can be implemented as one of three different bridge structures, called a quasi-bridge, a half-bridge, or a full-bridge. This single-chip magnetic field sensor bridge has the advantages of small size, low cost, high sensitivity, small offset, good linearity, and good temperature stability.

IPC 8 full level
G01R 33/09 (2006.01)

CPC (source: EP US)
G01R 17/105 (2013.01 - US); **G01R 33/09** (2013.01 - EP US)

Cited by
US11275130B2; US11493573B2

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